

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Amended) A method of transmitting packets, the method comprising:
using a switch to receive communications;
using the switch to selectively filter the communications;
using a switch to receive a first stream of data units that are addressed to a unicast address on the switch, wherein the first stream of data units includes a payload portion and an attribute portion;
using a switch to duplicate at least the payload portion of a data unit within the first stream of data units; and
using a switch to enable access to the duplicated payload portion of the data unit by two or more terminals; and
forwarding the duplicated payload portion of the data unit within a second stream of data units addressed to a unicast address on each of the two or more terminals,
wherein the selectively filtering and forwarding are performed by the switch that is structured and arranged to selectively filter and forward between different domains at a same level in a protocol stack.
2. (Original) The method of claim 1 wherein the data unit includes an Internet Protocol packet.
3. (Original) The method of claim 2 wherein the attribute portion of the data unit includes an Internet Protocol header.

4. (Original) The method of claim 1 wherein the attribute portion of the data unit specifies one or more pieces of layer three information.

5. (Original) The method of claim 1 further comprising using the switch to generate and associate different attribute portions with duplicates of the payload portion generated by the switch.

6. (Original) The method of claim 1 wherein using the switch to duplicate at least the payload portion includes duplicating only the payload portion of the data unit.

7. (Original) The method of claim 5 wherein using the switch to associate different attribute portions with the data unit and duplicates of the payload portion includes specifying destination information that differs among the duplicates of the payload portion.

8. (Original) The method of claim 1 wherein using the switch to duplicate includes using the switch to duplicate the payload portion and the attribute portion.

9. (Original) The method of claim 5 wherein using the switch to generate and associate different attribute portions includes changing an IP destination address.

10. (Original) The method of claim 9 wherein changing the IP destination address includes changing the IP destination address to an IP address corresponding to one or more terminals to which access to the payload portion will be enabled.

11. (Original) The method of claim 1 wherein using the data unit includes audio content.

12. (Original) The method of claim 1 wherein the data unit includes video content.

13. (Original) The method of claim 1 wherein the data unit includes streamed media.

14. (Original) The method of claim 1 further comprising receiving a request to receive the stream of data units from at least a requesting one of the two or more terminals.

15. (Original) The method of claim 14 wherein using the switch to enable access to the payload portions of the data units includes enabling access to the at least one requesting terminal in response to the request.

16. (Original) The method of claim 14 wherein the request is received from a device other than the terminals.

17. (Amended) A switch comprising:

a first communications interface that is structured and arranged to:

receive communications,

selectively filter the communications, and

receive a first stream of one or more data units that are addressed to a unicast address on the switch, wherein ~~that~~ each data unit includes a payload portion and an attribute portion;

a buffer structured and arranged to store at least the payload portions of the data units included in the received stream;

a replicator structured and arranged to duplicate at least the payload portions of one or more of the data units; and

a second communications interface structured and arranged to:

enable access by two or more terminals to the payload portions that are duplicated by the replicator, and

forward the duplicated payload portion of the data unit within a second stream of data units that are addressed to a unicast address on each of the two or more terminals;
and
wherein the first communications interface and the second communications interface are structured and arranged to selectively filter and forward between different domains at a same level in a protocol stack.

18. (Original) The switch of claim 17 wherein a data unit includes an Internet Protocol packet.

19. (Original) The switch of claim 17 wherein the attribute portion of a data unit specifies one or more pieces of layer three information.

20. (Original) The switch of claim 17 further comprising a processor structured and arranged to generate and associate different attribute portions with the payload portions that are duplicated by the replicator.

21. (Original) The switch of claim 20 wherein the processor is structured and arranged to specify destination information that differs among different duplicated versions of a payload portion.

22. (Original) The switch of claim 20 wherein the processor is structured and arranged to change an IP destination address.

23. (Original) The switch of claim 22 wherein the processor is structured and arranged to change the IP destination address to an IP address corresponding to the terminal to which access to the payload portion will be enabled using the second communications interface.

24. (Original) The switch of claim 17 wherein the replicator is structured and arranged to duplicate the payload portion and the attribute portion.

25. (Original) The switch of claim 17 wherein the data unit includes audio content.

26. (Original) The switch of claim 17 wherein the data unit includes video content.

27. (Original) The switch of claim 17 wherein the data unit includes streamed media.

28. (Original) The switch of claim 17 further comprising a third communications interface structured and arranged to receive a request to receive the stream of data units from at least a requesting one of the two or more terminals.

29. (Original) The switch of claim 28 wherein the second communications interface is structured and arranged to enable access by the at least one requesting terminal to the payload portions in response to the request.

30. (Original) The switch of claim 28 wherein the requestor includes a device other than the terminals.

31. (Original) The switch of claim 17 wherein the second communications interface transmits the duplicated stream of data units to two different terminals.

32. (Original) The switch of claim 31 wherein the two different terminals receive the stream of data units at two different temporal offsets.

33. (Original) The switch of claim 17 wherein the replicator includes more than one pointer to contents of the buffer to enable a first terminal to receive the stream of data units at a different point in the stream of data units than a second terminal.

34. (Original) The switch of claim 17 wherein the buffer includes more than one instance of the stream of data units.

35. (Original) The switch of claim 17 wherein the replicator is structured and arranged to duplicate only the payload portion of the data unit.

36. (Amended) A method of receiving a ~~second duplicated~~ stream of data units, the method including:

interfacing with a network including a switch capable of:

receiving communications,

filtering the communications, and

duplicating the a first stream of data units that are addressed to a unicast address on the switch as a second stream of data units and making forwarding the duplicated second stream of data units addressed to a unicast address on each of accessible to more than one terminal; and

receiving the second stream of data units from the switch, wherein the data units within the stream each include a payload portion that has been duplicated by the switch and an attribute portion; and

wherein selectively filtering and forwarding are performed by the switch that is structured and arranged to selectively filter and forward between different domains at a same level in a protocol stack.

37. (Original) The method of claim 36 further comprising generating perceivable output based on the stream of data units.

38. (Original) The method of claim 36 wherein the attribute portion of the data unit includes an IP header.

39. (Original) The method of claim 36 wherein the attribute portion of the data unit specifies one or more pieces of layer three information.

40. (Original) The method of claim 36 wherein the data unit includes audio content.

41. (Original) The method of claim 36 wherein the data unit includes video content.

42. (Original) The method of claim 36 wherein the data unit includes streamed media.

43. (Original) The method of claim 36 further comprising generating a request to receive the stream of data units.

44. (Original) The method of claim 43 wherein the payload portions of the data units are received in response to the request.

45. (Amended) A method of distributing data units to terminals, the method comprising:
interfacing with a network including one or more switches capable of:
receive communications,
selectively filtering the communications, and
duplicating at least a payload portion of a data unit within a first stream of data
units addressed to a unicast address on the switch, wherein each of the data units includes
including an attribute portion and the payload portion; and

transmitting the first stream of data units to the switches for duplication of at least the payload portion of the data unit within the stream for forwarding as a second stream of data units addressed to a unicast address for transmission to two or more terminals; and
wherein selectively forwarding and filtering are performed by the switches that are structured and arranged to selectively filter and forward between different domains at a same level in a protocol stack.

46. (Original) The method of claim 45 wherein the data unit includes audio content.

47. (Original) The method of claim 45 wherein the data unit includes video content.

48. (Original) The method of claim 45 wherein the data unit includes streamed media.

49. (Original) The method of claim 45 wherein the attribute portion of the data unit includes an IP header.

50. (Original) The method of claim 45 wherein the attribute portion of the data unit specifies one or more pieces of layer three information.

51. (Amended) A switch comprising:

first communications interface means for:

receiving communications,

selectively filtering the communications, and

receiving a first stream of one or more data units addressed to a unicast address on the switch, wherein each data unit includes a payload portion and an attribute portion;

buffer means for storing at least the payload portion of the data units included in the received streams;

replicator means for duplicating at least the payload portion of one or more of the data units; ~~and~~

second communications interface means for:

enabling access by two or more terminals to the payload portions that are duplicated by the replicator;

forwarding the duplicated payload portion of the data unit within a second stream of data units addressed to a unicast address for each of the two or more terminals,

wherein the switch is structured and arranged to selectively filter and forward between different domains at a same level in a protocol stack.

52. (Amended) A system comprising:

a source system structured and arranged to enable access to a first stream of data units;

a switch structured and arranged to:

using a switch to receive communications,

using the switch to selectively filter the communications,

receive a first stream of data units addressed to a unicast address on the switch from a source system, ~~to~~

duplicate at least a payload portion of the data units in the stream, and to

forward~~transmit~~ payload portions duplicated to two or more terminals as a second stream of data units address to a unicast address for each of the terminals; and

one or more terminals structured and arranged to receive a stream of data units that have been duplicated by the switch; and

wherein the switch is structured and arranged to selectively filter and forward between different domains at a same level in a protocol stack.

53. (New) The method of claim 1 wherein

using the switch to receive the first stream of data units,

using the switch to duplicate at least the payload portion of a data unit within the stream of data units,

using the switch to enable access to the duplicated payload portion of the data unit by two or more terminals, and

forwarding the duplicated payload portion of the data unit as the second stream of data units includes:

using the switch to receive the first stream of data units on a first communications interface associated with a first domain;

using the switch to duplicate at least the payload portion of a data unit so that the payload portion may be accessed from a second communications interface in at least a second domain different than the first domain;

using the switch to enable access to the duplicated payload portion from the communications interface; and

forwarding the duplicated payload portion of the data unit as the second stream of data units addressed to a unicast address for each of the two or more terminals using the second communications interface.

54. (New) The method of claim 53 further comprising:

enabling the switch to receive a request from at least one of the terminals; and

transmitting the duplicated payload portion of the data unit as the second stream of data units uniquely addressed to each of two or more terminals in response to receiving the request.

55. (New) The method of claim 1 further comprising using the switch to store at least a first and second instance of the payload so that the second instance of the payload portion may be used to enable access to the duplicated payload portion when the first instance is no longer able to enable access to the duplicated payload portion.

Applicant : Gil Weigand et al.
Serial No. : 09/893,692
Filed : June 29, 2001
Page : 12 of 17

Attorney's Docket No.: 06975-178001 / Ultravox 02

56. The method of claim 55 wherein using the switch to store the second instance is performed in response to a large number of requests.